

Effect of Cash Conversion Cycle, Firm Size, and Firm Age to Profitability

Ferry Christian Samosir^{a*}

^a*Jurusan Manajemen Bisnis, Politeknik Negeri Batam, ferrychristian917@yahoo.co.id, Indonesia*

Abstract. This study aims to provide empirical evidence about effect of cash conversion cycle, firm size, and firm age to profitability. This study uses a quantitative approach, data collection techniques using purposive sampling method. The population in this research is manufacturing companies listed in Indonesia Stock Exchange (BEI) in the period 2012-2014 with a total sample of 101 companies and a total of as many as 303 samples of whole observation observation. This study uses panel data regression. This study was conducted to analyze the effect of the cash conversion cycle, firm size and age of the company to profitability by manufacturing companies using panel data through eviws. Establishment of a model in this study there are three models, namely common effect, fixed effect model and random effect model. Selection of the best model there are three, namely chow test, Hausman test, and langrange multiplier. The results showed that the variable cash conversion cycle, firm size, firm age and positive effect on the variable return on assets. Variable leverage as control variables have no effect on the variable return on assets.

Keywords: cash conversion cycle, firm size, firm age, leverage, profitability

Introduction

Business objective of the company is to maximize the economic benefits to the business owner and give the maximum extent possible monetary gains to shareholders (Sartono, 2010). A company is considered to provide monetary benefits to shareholders can be judged on the performance of the company. The company's performance is measured from the cash flow at all times used in the company's operations. Under SFAS Article 2, paragraph 6, 2015, cash are current assets consisting of cash balances and current accounts that are used to carry out the business, repay their obligations and to pay dividends to investors. Companies obtain cash grouped into three categories: cash flow from operating activities, cash flows from investing activities and cash flows from financing activities (IAI, 2015).

Through cash flow from operating activities, the company will obtain the cash received from the sale, collection of accounts receivable short term, royalties, fees, commissions and interest income and dividend income. Cash flows from investing activities, the

company will earn cash repayments of principal payments by another company, sale of fixed assets of the company, and sales of securities instrument at another company. Cash flows from financing activities, the company will earn cash through the issuance of bonds or promissory note, loan term, and sales of shares of the company itself (SFAS Article 2, paragraph 14, 16, and 17 in 2015).

Companies should always maintain its profitability to be stable so that investors are interested to invest in the company because before investing investors focused on the analysis of the profitability of the company. The profitability of the company can maintain the survival of the company as it can measure the extent to which the company's ability to earn income (Sawir, 2005). Cash conversion cycle is also noteworthy to know how liquid cash used by the company in the accounting period. According Sawir (2005) cash conversion cycle is the simple sum of the number of days accounts receivable and days sales of inventory minus the number of days the payment of trade payables that have not been resolved. Their cash conversion cycle analysis can help a company to know

*Corresponding author. E-mail: ferrychristian917@yahoo.co.id

how liquid the company's cash and how high the increased profitability of the company in the accounting period. Cash conversion cycle centered on the length of the time period between the issuing company and when the company receives cash back cash inflows. The positive influence cash conversion cycle on the profitability point is the faster period average cash conversion cycle will increase the profitability of the company, while the influence of negative cash conversion cycle on the profitability point is the longer period average cash conversion cycle will decrease the profitability of the company (Deloof, 2003).

Company size also affect the profitability of the company. The effect is seen on total net sales that have occurred during the accounting period. Businesses large number of sales that would give a positive signal that the company has good prospects and tend to be more known to the public for information on the major companies more than small enterprises (Nurhasanah, 2012). Information is available in the capital markets will be a cornerstone investor analysis to determine investment decisions. Large companies have access to capital markets so it is easier to obtain additional funds from investors in order to increase the profitability of the company. In addition to firm size, firm age also affect the profitability of the company because it can help the company find out how long the company stand so that it can profit from year to year (Merry, 2013). This research study implementation of Yazdanfar Darush (2014). Differences in study by researchers lies in the past now with the addition of independent variables and control variables as well as research samples. The independent variables include firm size and firm age. Control variables are leverage and research samples are companies listed on the stock exchange during the years 2012-2014.

Literature Review

Agency Theory

Limited liability company, the owner's responsibility is limited to paid-in capital. That is, if the company went bankrupt, then the equity that had been deposited by the owner of the company will be used to pay the obligations of the company, but personal property owners are not used to cover the company's losses.

According Sawir (2005) the leverage ratio aims to measure the degree of solvency of a company. This

ratio indicates the company's ability to meet all its financial obligations both long term and short term.

Research on the effect of the cash conversion cycle to profitability, the results are still not consistent. Therefore, the author describes the results of previous studies, which are grouped into two parts, namely the positive results of research and studies that the results were negative. Research results are positive: First, Jose et al. (1996) has conducted this study using a sample of 2,718 manufacturing companies in the United States during the period 1974-1993. Second, Gill et al. (2010) have examined with a sample of 88 manufacturing companies in the United States during the period 2005-2007. Third, Sharma and Kumar (2011) have examined with a sample of 263 non-financial companies in India during the period 2000-2008. Fourth, Abuzayed (2012) have examined with a sample of 93 non-financial companies in Jordan during the period 2000-2008. Fifth, Pratiwi (2012) have examined the sample number 1 company in Indonesia during the period 2006-2010. Sixth, Jannah (2012) have examined with a sample of 90 companies manufacturing in Indonesia during the period 2008-2011. Of the six that study results indicate that the cash conversion cycle positive effect on profitability. Research results are negative, among others: First, Shin and SOENEN (1998) has conducted this study with a sample of 58,985 manufacturing companies in the United States during the period 1975-1994. Secondly, Wang (2002) have examined with a sample of 1,555 Japanese companies and 379 companies of Taiwan in Japan during the period 1985-1996. Third, Deloof (2003) have examined with a sample of 1,009 non-financial companies over the period 1992-1996. Fourth, Mathuva (2010) have examined the sample number 30 in the Kenyan manufacturing firms over the period 1993-2008. Fifth, Werner (2011) have examined the number of samples of all companies listed on the LQ-45 index in Indonesia during the period 2008-2011. Of the five that study results indicate that the cash conversion cycle negatively affect profitability.

Effect of cash conversion cycle to profitability

Companies can maximize profits by managing the collection period of trade receivables, average collection period sales of inventory and the period of repayment of business should be to do a simple sum of the number of days accounts receivable and days sales of inventory minus the number of days the payment of trade payables that have not been resolved (Sawir,

2005), Company to collect its accounts receivable with a fast time can reduce the risk of uncollectible accounts receivable. As a result of the repayment of accounts receivable from customers led to an influx of cash into the company. The increase in revenue will support the company operations so that it can generate huge profits for the company.

Companies that can sell inventory quickly means that the company can generate greater profits. Similarly, companies that faster debt the company will attempt to get a rebate so that companies can reduce the cost of purchasing raw materials. Research done by Syarif (2009) on the effect of the cash conversion cycle of profitability, shows that the cash conversion cycle positive effect on profitability. Based on these explanations, the hypotheses to be tested are:

H₁: Cash conversion cycle positive effect on profitability.

Effect of firm size to profitability

Company size is a value when the company can be grouped into the size of the natural logarithm based on the company's total net sales (Sawir, 2005). Company's large amount of assets and large sales will give a positive signal that the company has good prospects and tend to be more known to the public for information on the major companies more than small enterprises (Nurhasanah, 2012). Information is available in the capital markets will be a cornerstone investor analysis to determine investment decisions. Large companies have access to capital markets so it is easier to obtain additional funding to improve the company's profitability. Variable firm size has been studied by some researchers that the results are still not consistent (positive and negative). Therefore, the author describes the results of previous studies, which are grouped into two parts, namely the positive results of research and studies that the results were negative. Research results are positive: First, research conducted by Mathuva (2010) about the influence of the components of working capital management on profitability. Second, research conducted by Martinez (2011) about how the impact of working capital management on profitability.

From both these studies the results showed that the variables firm size positively affects profitability. Research results are negative, among others: First, research conducted by Nazir (2012) concerning the determination of working capital. Second, research conducted by Asmawi (2012) concerning the validity of the analysis of the factors determining the working

capital. From both these studies the results showed that the variables firm size negatively affect profitability. Based on these explanations, the hypotheses to be tested are:

H₂: Firm size positive effect on profitability.

Effect of firm age on profitability

Age can be measured through the company's inception date and the earliest date registered on the Stock Exchange. Age companies in this study using the natural logarithm of the date the age of the company listed on the Indonesian stock exchange (Jose, 1996). Relation to the age of the company to profitability, namely the longer the company stands it will generate higher profit than a new company for their management experience from previous companies that seek to continue to increase its profit from year to year (Merry, 2013).

Variable firm this age has been investigated by several previous investigators, among others: Mathuva (2010), Banos-Caballero (2010), Bestivano (2013) that the result was not consistent (positive and negative). Therefore, the author describes the results of previous studies, which are grouped into two parts, namely the positive results of research and studies that the results were negative. Research results are positive: First, research conducted by Mathuva (2010) about the influence of the components of working capital management on profitability. Second, research conducted by Banos-Caballero (2010) on working capital management on profitability. From both these studies the results showed that the firm age variable positive effect on profitability. Research results are negative, among others: First, research conducted by Bestivano (2013) about the effect of firm size, firm age, profitability and leverage on income smoothing. From the study results indicate that variable age negatively affect the firm's profitability. Based on these explanations, the hypotheses to be tested are:

H₃: Firm age positive effect on profitability.

$ROA_{i,t} = \alpha + \beta_1 CCC_{i,t} + \beta_4 Levi_{i,t} + \epsilon_{it}$ (H₁ Test: Cash conversion cycle positive effect on profitability)

$ROA_{i,t} = \alpha + \beta_2 Size_{i,t} + \beta_4 Levi_{i,t} + \epsilon_{it}$ (H₂ Test: Firm size positive effect on profitability)

$ROA_{i,t} = \alpha + \beta_2 Size_{i,t} + \beta_3 Age_{i,t} + \epsilon_{it}$ (H₃ Test: Firm age positive effect on profitability)

- ROA = Return on Assets
- CCC = Cash Conversion Cycle
- SIZE = Firm Size
- AGE = Firm Age
- LEV = Leverage
- α = Constant
- i = sample
- t = time period
- $\beta_1, \beta_2, \beta_3, \beta_4$ = Regression Coefficient
- ε = error

Research Design

Types of secondary data from the annual report of financial companies listed on the stock exchanges of Indonesia (database). The sampling technique used in this research is purposive sampling method. Criteria sample selection criteria which have been determined by the researchers in this study are (a) Sampel selected are companies listed on the Stock Exchange is publishing a complete annual report and audited company as of December 31 of the year 2012 to 2014. (b) Have complete data associated with variables research. The variables of this study consists of three independent variables and one dependent variable and one control variable. Independent variables in this study: first, the variable cash conversion cycle consisting of accounts receivable, net sales, inventory, cost of sales and trade payables. Second, firm size variables consist of net sales. Third, firm age variable consists of firm age on the date listed on the Indonesian stock exchange. Dependent variable in this study, namely return on assets consisting of net profit after tax and total assets. Control variables in this study is leverage consists of total liabilities and total assets.

Table 1 Measurement Variables

Variabel	Formulation	Scale	Symbol
CCC (H1)	Cash Conversion Cycle = (Accounts receivable / Sales X 365) + (Inventory / Cost of Goods Sold X 365) - (Accounts payable / Cost of Goods Sold X 365)	Ratio	CCC
Firm Size (H2)	Firm Size = LN (Total net sales)	Ratio	FS
Firm Age (H3)	Firm Age = LN (Age companies from the date listed on the Stock Exchange)	Ratio	FA
Return on Asset (Y) variable	Return on Assets = Net profit after tax / Total assets	Ratio	ROA
Control	Leverage = Total liabilities / total assets	Ratio	LEV

Source: Sawir (2005), Jose (1996)

Results and Discussion

The samples used are 101 manufacturing companies during the third period (2012-2014) so that a manufacturing company that will be the observation of researchers totaling 303 companies. During the study period from 2012, 2013 and 2014 the number of companies listed on the Stock Exchange respectively different each year, namely: 126, 129, and 144 manufacturing companies. Researchers were unable to find the annual report in 2012 and 2013 respectively by 18 and 15 manufacturing companies. Annual report presented than the currency of rupiah from the 2012, 2013 and 2014 respectively as much as 7, 13, and 43 manufacturing companies. The samples used are 101 manufacturing companies during the third period (2012-2014) so that a manufacturing company that will be the observation of researchers totaling 303 companies.

Table 2: Total Final Sample

	2012	2013	2014
Manufacturing companies listed on IDX per year.	126	129	144
Researchers were unable to find the annual report in 2012 and 2013.	18	15	Complete
Annual report presented other than currency.	7	13	43
Total final sample			101
Total sample observation (101 x 3 years)			303

Source: Fact Book BEI 2012, 2013, and 2014

Table 3 showed that the return on assets (ROA) as the dependent variable showed an average value of 0.56 indicating that manufacturing firms in Indonesia in 2012-2014 had an average level of profitability measured by net profit after tax divided by total assets, which contribute to total assets of 0.56 for profit. The maximum value indicates the value of the profitability of manufacturing companies a maximum of 66.94, while the lowest value shows the value of the company's profitability 0.00 lowest manufacturing of total assets. Standard deviation or ketimpangannya at 4.17 shows the average deviation of return on assets (ROA).

Cash conversion cycle (CCC) as independent variables showed an average value of 3.77 indicating that manufacturing companies require 3.77 days of total receivables and total sales of merchandise inventory or inventory to be converted into the company's cash and cash were used again to buy inventory merchandise and then resold and converted into the company's cash and so on in the company's

operations. The maximum value shows the cash conversion cycle (CCC) manufacturing company the longest 7.24 a day of total receivables and total sales of merchandise inventory or inventory to be converted into the company's cash and cash were used again to buy merchandise inventory and resold and converted into cash companies so on in the company's operations, while the lowest value shows the cash conversion cycle (CCC) manufacturing company for a minimum of 0.08 a day of total receivables and total sales of merchandise inventory or inventory to be converted into the company's cash and cash were used again to buy supplies merchandise and then resold and converted into the company's cash and so on in the company's operations. Standard deviation or ketimpangannya at 1.32 shows the average deviation cash conversion cycle (CCC).

Table 3: Descriptive Statistics

Variables	ROA	CCC	FS	FA	LEV
Mean	0.56	3.77	0.15	3.20	0.30
Maximum	66.94	7.24	0.20	3.98	10.77
Minimum	0.00	0.08	0.02	2.50	4.00
Std. Dev.	4.17	1.32	0.03	0.44	0.86
Sample (N)	303	303	303	303	303

Description: This table presents the results of descriptive statistical tests. All results from each of the variables taken two decimal places. The dependent variable was ROA. The independent variables including: CCC, FS and FA. Variable control is LEV. Explanation of variables are: ROA = Net profit after tax / Total assets, CCC = (Accounts receivable / Sales X 365) + (Inventory / Cost of Goods Sold X 365) - (Accounts payable / Cost of Goods Sold X 365), FS = LN (Total net sales), FA = LN (Age companies from the date listed on the Stock Exchange), LEV = Total liabilities / total assets.

Source: Results of the program data eviws

Firm size (FS) as independent variables showed the average value of 0.15 indicating that manufacturing firms in Indonesia in the period 2012-2014 the average selling natural logarithm of 0:15 of total net sales. Nominal net sales of which: Rp1,844,851,246,410, Rp1,135,338,808,147, Rp1,021,278,370,406, and Rp3,277,195,052,159. The maximum value indicates the value of sales of manufacturing companies a maximum of 0.20 of the natural logarithm is Rp3,277,195,052,159 total net sales, while the lowest value of 0.02 indicates manufacturing company sales value of the lowest of the natural logarithm is Rp629,017 total net sales. Standard deviation of 0.03 represents the average deviation firm size (FS).

Firm age (FA) as independent variables showed an average value of 1.25 indicating that manufacturing firms in Indonesia in 2012-2014 had an average age of companies of 3.20 or 3 years of age the natural logarithm based on the date of its registered company on the Stock Exchange. The maximum value indicates the age of the company manufacturing the longest is 3.98 or 3 years of natural logarithm company's age based on the date registered on the Stock Exchange, while the lowest value of 2.50 or 2 years to show its

age a manufacturing company the youngest of the natural logarithm company's age based on the date registered on the Stock Exchange. Standard deviation or ketimpangannya of 0.44 represents the average deviation firm age (FA).

Leverage (LEV) as a control variable indicates the average value of 0.30, which means that the company has long-term debt guarantees 0.30 of the total assets of the company. The maximum value indicates that manufacturing companies leverage the value of a maximum of 10.77 of total assets, while the lowest value 4.00 shows the value of most manufacturing companies leverage lower than total assets. Standard deviation or ketimpangannya of 0.86 represents the average deviation leverage (LEV).

Table 4: Regression with Fixed Effects Model for H₁

$$ROA_{it} = \alpha + \beta_1 CCC_{it} + \beta_4 LEV_{it} + \epsilon_{it}$$

Variables	Coefficient	Prob.	VIF
CCC (H1)	4.575233	0.0000*	5.533565
LEV	-0.116853	0.5846	1.503317
C	2.103762	0.0155	NA
Sample (N)			303
Prob F			0.000000*

Statistic
Test Results Selected Fixed Effects Model
Chow and Hausman

* Significant at the 1% level. ** Significant at the 5% level.
*** Significant at 10% level

Description: This table is the result of regression with fixed effects models after tested chow and Hausman. The dependent variable is ROA, and the independent variable is the CCC. Variable control is LEV. Explanation of variables are: ROA = Net profit after tax / Total assets, CCC = (Accounts receivable / Sales X 365) + (Inventory / Cost of Goods Sold X 365) - (Accounts payable / Cost of Goods Sold X 365), LEV = total liabilities / total assets. VIF value of less than 10 means the independent variable and the control variable there is no multicollinearity.

Source: Results of the program data eviws

Based on the results of the test explanation chow and Hausman test is then the best model is the fixed effects models to test hypotheses 1. The first hypothesis proposed in this study stated that the cash conversion cycle positive effect on profitability. This hypothesis could be supported if the value of the cash conversion cycle significance probability <0.01 and can not be supported otherwise. Based on the hypothesis table 4 (H₁) showed regression coefficient of 4.575233 to the significance probability value of 0.0000 which means that (<0.01) These results have proved that the effect of variable cash conversion cycle (CCC) to positively affect profitability (ROA), means the sooner the payment of trade receivables from customers will increase the company's cash, as well as sales more sales of inventory that happens it will increase the company's cash. Cash flow into the company in the form of cash, as the company's cash current assets reused by the company to be played back to buy stock merchandise and then resell to raise

cash the company, the activities carried out by the company continue-constantly to obtain optimal corporate profits. The company's profit earned in the accounting period in proportion will be used to repay long-term debt and short-term. Due to the significance probability value less than 0.01, we conclude that the hypothesis (H₁) supported. These results are supported by research Jose (1996), Gill (2010), Yazdanfar (2014), Kumar (2011), Abuzayed (2012), Pratiwi (2012), and Jannah (2012) indicating partially that the variable conversion cycle cash effect positively on profitability

Tabel 5: Regression with Fixed Effects Model for H₂

ROA _{it} = α + β ₂ SIZE _{it} + β ₄ LEV _{it} + ε _{it}			
Variables	Coefficient	Prob.	VIF
FS (H ₂)	30.09569	0.0018**	1.232926
LEV	-0.175770	0.6048	1.503317
C	3.933704	0.0078	NA
Sample (N)			303
Prob F			0.000000*
Statistic			
Test Results	Selected Fixed Effects Model		
Chow and Hausman			

* Significant at the 1% level. ** Significant at the 5% level.
*** Significant at 10% level

Description: This table is the result of regression with fixed effects models after tested chow and Hausman. The dependent variable is ROA, and the independent variable is the CCC. Variable control is LEV. Explanation of variables are: ROA = Net profit after tax / Total assets, CCC = (Accounts receivable / Sales X 365) + (Inventory / Cost of Goods Sold X 365) - (Accounts payable / Cost of Goods Sold X 365), LEV = total liabilities / total assets. VIF value of less than 10 means the independent variable and the control variable there is no multicollinearity.

Source: Results of the program data eviews

Based on the results of the test explanation chow and Hausman test is then the best model is the fixed effects models to test the hypothesis 2. The second hypothesis proposed in this study stated that the size of the company's positive effect on profitability. This hypothesis could be supported if the value of the size of the company significance probability <0.05 and can not be supported otherwise. Based on the hypothesis table 5 (H₂) showed regression coefficient of 30.09569 probability value of 0.0018, which means significant (<0.05) These results have proved that the effect of variable size companies (FS) positively affect profitability (ROA), means it is increase large total sales that occurred during the accounting period it will increase the company's revenue. The writer saw the significance probability value less than 0.05, we conclude that the hypothesis (H₂) supported. These results are supported by research Gill (2010), Abuzayed (2012), Pratiwi (2012), Jannah (2012), Soenen (1998), Deloof (2003), and Mathuva (2010) indicating partially that the variable firm size has positive effect on profitability.

Tabel 6: Regression with Fixed Effects Model for H₃

ROA _{it} = α + β ₃ AGE _{it} + β ₄ LEV _{it} + ε _{it}			
Variables	Coefficient	Prob.	VIF
FA	4.201682	0.000000*	5.542567
LEV	0.043889	0.8881	1.503317
C	5.852022	0.000000	NA
Sample (N)			303
Prob F			0.000000*
Statistic			
Test Results	Selected Fixed Effects Model		
Chow and Hausman			

* Significant at the 1% level. ** Significant at the 5% level.
*** Significant at 10% level

Description: This table is the result of regression with fixed effects models after tested chow and Hausman. The dependent variable is ROA, and the independent variable is the CCC. Variable control is LEV. Explanation of variables are: ROA = Net profit after tax / Total assets, CCC = (Accounts receivable / Sales X 365) + (Inventory / Cost of Goods Sold X 365) - (Accounts payable / Cost of Goods Sold X 365), LEV = total liabilities / total assets. VIF value of less than 10 means the independent variable and the control variable there is no multicollinearity.

Source: Results of the program data eviews

Based on the results of the test explanation chow and Hausman test is then the best model is the fixed effects models to test the hypothesis 3. Hypothesis 3 proposed in this study stated that age companies positive effect on profitability. This hypothesis could be supported if the value of the size of the company significance probability <0.05 and can not be supported otherwise. Based on Table 6 Hypothesis (H₃) showed regression coefficient of 4.201682 to the significance probability value of 0.0000 which means that (<0.01) These results have proved that the effect of firm age variable (FA) to positively affect profitability (ROA), meaning that the longer companies listing on the stock exchange, the more opportunities the company to improve profitability in order to attract investors in capital investment. Due to the significance probability value less than 0.05, we conclude that the hypothesis (H₃) supported. These results are supported by research Bestivano (2013), Gill (2010), Abuzayed (2012), Pratiwi (2012), Jannah (2012), Deloof (2003), and Mathuva (2010) indicating partially that the age variable firm positive effect on profitability.

Conclusion

The results showed the effect of variable cycle of cash conversion (CCC) to positively affect profitability (ROA), means faster payment of accounts receivable from customers it will increase the company's cash, as well as sales more sales of inventory that happens it will increase the company's cash. In the event of the sale of merchandise in order to obtain the cash then played back cash to buy stock

merchandise and reselling them for a profit. The company's profit earned in the accounting period in proportion will be used to repay long-term debt. The effect of variable size companies (FS) positively affect profitability (ROA), it means the greater the total sales will increase corporate revenue. The effect of variable age of the firm (FA) to positively affect profitability (ROA), which means that the longer the company's listing on the stock exchange, the more opportunities the company to improve profitability in order to attract investors in capital investment.

This study can not be said to be excellent and a lot of it has limitations that the results obtained allow deviations from the fact that actually happened or of the theory and the existing literature. Limitations of this study focuses only on ratios such as return on assets, cash conversion cycle, firm size, firm age, and leverage, as well as the number of the study period is too short just three years. advice given is further research is expected to expand this research by extending the study period by adding years of observation and also expanding the number of samples for future research and increase research variables.

References

- Abuzayed, B. (2012). Working capital management and firms performance in emerging markets: the case of Jordan. *International Journal of Managerial Finance*, 155-179.
- Asmawi. (2012). Analyzing the Validity of Working Capital Determinant Factors of Enterprise 50 (E50) Firms in Malaysia using Partial Least Square - Structural Equation Modeling. *Transformasi Ekonomi dan Sosial*, 466-472.
- Banos-Caballero. (2010). Working capital management in SMEs. *Accounting and Finance*, 511-527.
- Bestivano, W. (2013). Pengaruh ukuran perusahaan, Umur perusahaan, Profitabilitas dan Leverage terhadap perataan laba. *Universitas Negeri Padang, Program Studi Akuntansi*, Padang.
- Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance & Accounting*, 573-588.
- Ghozali, I. (2012). *Aplikasi analisis multivariate dengan program IBM SPSS 20*. (6 Ed.). Semarang: Universitas Diponegoro.
- Gill, A. (2010). The relationship between working capital management and profitability: evidence from the United States. *Business and Economics Journal*, 1-9.
- Husnan, S. (1994). *Dasar-dasar manajemen keuangan*. Yogyakarta: UPP STIM YKPN.
- IAI. (2015). *Standar Akuntansi Keuangan*. Jakarta: Ikatan Akuntan Indonesia.
- Jannah. (2012). Analisis pengaruh efisiensi modal kerja terhadap profitabilitas. *Skripsi Departemen Akuntansi*, 10-20.
- Jogiyanto. (2004). *Metode Penelitian Bisnis: Salah Kaprah dan Pengalaman-Pengalaman*. Yogyakarta, Indonesia: BPFE-Yogyakarta.
- Jose. (1996). Corporate returns and cash conversion cycles. *Journal of Economics and Finance*, 26-35.
- Kareem. (2014). *The determinants of capital structure: an empirical study of oman listed industrial companies*. Business: Theory and practice, 159-167.
- Keown, A. (2010). *Manajemen Keuangan Prinsip dan Penerapan*. Jakarta.
- Kumar, S. a. (2011). Effect of working capital management on profitability. *Global Business Review*, 159-173.
- Lazaridis and Tryfonidis, I. (2006). Relationship between working capital management and profitability of listed companies in the Athens stock exchange. *Journal of Financial Management and Analysis*, 26-35.
- Martinez-Solano. (2011). How does working capital management affect the profitability of Spanish SMEs. *Small Business Economics*, 517-529.
- Mathuva, D. (2010). The influence of working capital management components on corporate profitability: a survey on Kenyan listed firms. *Research Journal of Business Management*, 1-11.
- Merry. (2013). Pengaruh Harga Saham, Umur Perusahaan dan Rasio Profitabilitas Perusahaan Terhadap Tindakan Perataan Laba. *Program Studi Akuntansi*. Padang: Fakultas Ekonomi Andalas.
- Nachrowi, D. (2006). *Pendekatan populer dan praktis ekonometrika untuk analisis ekonomi dan keuangan*. Jakarta: Fakultas Ekonomi Universitas Indonesia.
- Napompech, K. (2012). Effects of working capital management on the profitability of Thai listed firms. *International Journal of Trade*, 227-232.
- Nazir, A. (2012). Working Capital Requirements and the Determining Factors in Pakistan. *The Icfai Journal of Applied Finance*, 90-95.
- Nurhasanah. (2012). Pengaruh Rasio Aktivitas, Struktur Modal, Ukuran Perusahaan, dan Umur Perusahaan terhadap Profitabilitas pada Perusahaan Food and Beverage yang terdaftar di BEI. *Jurnal UNRI*.
- Ohman, Y. d. (2014). The impact of cash conversion cycle on firm profitability. *International Journal of Managerial*, 442-452.

- Pratiwi, R. (2012). Pengaruh modal kerja terhadap profitabilitas. 7-12.
- Sartono, A. (2010). *Manajemen Keuangan Teori dan Aplikasi*. Yogyakarta: BPFE.
- Sawir, A. (2005). *Analisis Kinerja Keuangan dan Perencanaan Keuangan Perusahaan*. Jakarta: Gramedia Pustaka Utama.
- Soenen, S. a. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice & Education*, 39-45.
- Suliyanto. (2009). *Ekonometrika Terapan: Teori dan Aplikasi dengan SPSS*. Yogyakarta: Andi.
- Syarief, E. (2009). Pengaruh siklus konversi kas terhadap profitabilitas. *Jurnal Ekonomi Bisnis*, 61-69.
- Wang, Y. (2002). Liquidity management, operating performance, and corporate value: evidence from Japan and Taiwan. *Journal of Multinational Financial Management*, 159-169.
- Werner. (2011). Pengaruh modal kerja terhadap profitabilitas. *Journal of ITB*, 5-10.
- Winarno. (2009). *Analisis Ekonometrika dan Statistika dengan Eviews*. Yogyakarta: YKPN.